a5

--The monolith **12** itself is divided into a multiplexing layer **34** and a beam-splitting layer **36**. As indicated by the dashed line in FIG. 1, these two layers are not joined or affixed to each other. The multiplexing layer **34** and the beam-splitting layer **36** are part of the same monolithic structure in much the same way that the individual transistors of an integrated circuit are part of, or integral with, the same silicon crystal. The multiplexing layer **34** extends from the rear face **14** to the beginning of the beam-splitting layer **36** in the interior of the monolith **12**. This multiplexing layer **34** has opposed first and second mirrored interior faces **35, 38**, best seen in FIG. 3, that are perpendicular to the rear face **14** of the monolith **12**. --

On page 6, please amend the paragraph beginning on line 1 to read as follows:

a6

-- FIG. 3 shows a cross-section obtained by slicing the multiplexing layer **34** along the *xy* plane. The first interior face **35** has a first facet **40** that is coplanar with the reference face and a second facet **42** that makes an obtuse angle with the first facet **40**. The second interior face **38** is punctuated by a plurality of output couplers **44a-d** (designated generally as **44**) arranged along a line extending parallel to the rows in the array of retro-reflectors **28**. The number of output couplers **44** on the second interior face **38** corresponds to the number of such rows. --

On page 7, please amend the paragraph beginning on line 25 to read as follows:

a7

--The beam-splitting layer **36**, shown in the cross section of FIG. 5, is bounded by the I/O face **20**, the reference face **18**, the measurement face **16**, and by the multiplexing layer **34**. A corner reflector **58** is mounted on the I/O face **20** and oriented to direct intermediate beams **50** (shown in FIGS. 6 and 7) emerging from the output couplers **44** into the beam-splitting layer **36**. FIGS. 5 and 6 show an intermediate beam **50a** exiting the output coupler **44** in the -x direction and being reflected in the *z* direction by a rear facet **60** of the corner reflector **58**. A front facet **62** opposite the rear facet intercepts intermediate beams **50** traveling in the *z* direction and reflects them in the +*x* direction, into the beam-splitting layer **36** of the monolith **12**. --

On page 8, please amend the paragraph beginning on line 20 to read as follows:

a8

--The input beam **48** of the interferometer **10** includes two orthogonally polarized components: a reference component and a measurement component. As these components traverse the monolith **12**, they lose and then recover their original polarization states.

a8 End

For example, upon entering the beam-splitting layer **36**, the reference component has a first linear polarization (the "P" polarization). This polarization is identified by the straight line within the corner reflector **58**. As it traverses the monolith **12**, the reference component becomes orthogonally polarized ("S" polarized). This portion of the reference component is identified by the wavy line in FIG. 6. Before it finally exits the monolith **12**, the reference component recovers its original polarization, which is shown by the straight line exiting the monlith **12.**

Similarly, the measurement component enters the beam-splitting layer **36** with a second linear polarization (the "S" polarization) orthogonal to the P polarization. This polarization is identified by the wavy line in the corner reflector **58** of FIG. 7. As it traverses the monolith **12**, the measurement component becomes "P" polarized. This portion of the reference component is identified by the straight line in FIG. 7. Before it finally exits the monolith **12**, the measurement component recovers its original polarization, which is shown by the wavy line exiting the monlith **12**. --

On page 8, please amend the paragraph beginning on line 25 to read as follows:

a9

--FIGS. 6 and 7 show the paths followed by the reference component and the measurement component of the intermediate beam **50a** lying in the plane that intersects the bottom row of retro-reflectors. The polarization states of these components shift at certain points along their respective paths through the beam-splitting layer. The shifting polarization states of these compoenents are identified by the straight and wavy lines used to designate certain portions of their paths. The reference and measurement components sometimes traverse the same portion of their respective paths twice, in different polarization states. For clarity, these portions of the paths are shown as being slightly displaced from each other. However, this displacement is shown only to facilitate understanding the operation of the beam-splitting layer **36**. In fact, the component is retracing the same physical path, but with different polarization states.--

In the drawings:

Please replace FIGS. 1, 3, and 5-7 with the attached FIGS. 1, 3, and 5-7.